

feasibility of combined neuroprotection in patients with AIS convincingly are substantiated by leading Ukrainian neurologists. The aim is to evaluate the economic feasibility of combined regimens of neuroprotection compared with the traditional. **METHODS:** Analysis of the results of comparative clinical trial of three neuroprotective regimens therapy of patients with moderate and severe AIS: traditional + citicoline (1 regimen); traditional + citicoline + actovegin (2 regimen); 3 regimen: traditional (pentoxifylline, heparin, acetylsalicylic acid, mannitol) (S. M. Vynychuk, O. A. Pustova, V. O. Mokchnach et al., 2008) was carried out. Cost-effectiveness analysis was used. Using a decision tree comparing the economic burden of the three regimens for one year was carried out. **RESULTS:** The number of patients who recovered completely after three months were used as efficacy. The efficacy for 1, 2 and 3 regimens were respectively 29.6%, 38.9% and 23.3%. Direct costs of the treatment regimens were \$ 1.015; \$ 1.186; \$ 617 for 1, 2 and 3 regimens, respectively. Incremental cost-effectiveness ratio (ICER) for 1 and 2 regimens were respectively \$6,317, \$3,647. The economic burden per one patient for one year were \$ 7006; \$ 6511; and \$ 6930 for 1, 2 and 3 regimens, respectively. **CONCLUSIONS:** The use of regimen 1 and regimen 2 provides greater efficacy and needs greater cost. With the forecast for one year and taking into account the indirect costs the neuroprotective regimen with combination of two drugs (regimen 2) has economic advantages.

#### PCV28

##### 2-YEAR INCIDENCE OF STROKE AND HEMORRHAGES HOSPITALIZATIONS AND COSTS WITHIN ATRIAL FIBRILLATION PATIENTS IN FRANCE

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**OBJECTIVES:** The prevalence of atrial fibrillation (AF) in France approaches one million people. The major complication associated with AF is stroke. Current anti-coagulation options for stroke prevention increase the risk of hemorrhages. Objectives were to estimate the 2-year cumulative incidence and costs of hospitalizations for strokes and hemorrhages in adults hospitalized for AF and eligible for stroke prevention. **METHODS:** Data for patients with an AF-related hospitalization in 2008 were extracted from the French Hospital National Database (PMSI). Risk scores (i.e. CHADS2; range: 0–6) were calculated from 2006–2008 data. Patient eligible for stroke prevention with anti-coagulants (i.e. CHADS2 ≥ 1) were selected for the follow-up analysis. Strokes and hemorrhages hospitalizations were identified according to ICD-10 codes. Strokes severity was based on rehabilitation length and death. Cumulative incidence was calculated by the number of new hospitalizations during the 2-year period divided by the number of patients. Mean hospital costs were calculated from the 2011 National Hospital Tariff for acute and rehabilitation care. **RESULTS:** A total of 61,582 AF patients were identified. Mean age was 75.0 (±11.0) years old and mean CHADS2 was 1.90 (±0.99). 2-year cumulative incidences of any strokes and hemorrhages were 3.21% (ischemic/60%; hemorrhagic/24%; unspecified/16%) and 5.31% (gastro-intestinal/26%; intracranial/5%; others/69%), respectively. Mean costs of ischemic and hemorrhagic strokes were €4,848 and €7,183 (mild), €10,909 and €14,298 (moderate), €29,065 and €29,701 (severe) and, €6,035 and €4,590 (fatal), respectively. Mean costs of hemorrhages were €3,601 and €7,331 for gastro-intestinal and intracranial localizations and, €3,941 and €2,552 for others major and non-major hospitalized bleeds. **CONCLUSIONS:** Frequencies and cost of hospitalized hemorrhages appear important to be taken into account in the global burden of AF. This data should be useful for future French pharmacoeconomic evaluations of new oral anti-coagulants. Thus, this real world data study may be helpful to assess consistency of patients' features within recent published clinical trials.

#### PCV29

##### HEALTH CARE RESOURCE UTILIZATION AND COSTS OF CARDIOEMBOLIC STROKE IN THE REGION OF MADRID, SPAIN: PRELIMINARY RESULTS OF CODICE STUDY

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**OBJECTIVES:** To estimate the health care resource utilization and direct costs of cardioembolic stroke in patients treated in public hospitals of the Region of Madrid (Spain). **METHODS:** An observational, prospective study was performed in 5 Neurology services from hospitals in the Region of Madrid, 2 with stroke units (SU) and 3 without stroke units (wSU). Patients with a diagnosis of cardioembolic stroke with ≤48-hours were recruited in a 4-month period in 2012. Patients' socio-demographic, clinical data: disability (modified Rankin scale, mRS), hospital stay and mortality; complications and health care resource utilization (hospitalisation, inpatient and at discharge rehabilitation, medication, laboratory tests and specific therapeutic interventions) were collected. Unitary costs were obtained from national health care database and the Spanish Catalogue of Medicinal Products (€, year 2012). **RESULTS:** Preliminary results from 76 patients (25 SU, 51 wSU) were: mean age, 74.2 ± 1.42; 64.5% female; mean mRS at discharge, 2.02 ± 0.20; non-valvular atrial fibrillation was the main cause of cardioembolic stroke (28.9%); mean length of stay, 10.1 ± 1.14 days; mortality, 5.3%; 42 patients (68.4%) needed in-patient rehabilitation and 48 patients (63.2%) needed rehabilitation after hospital

discharge; 22 patients (28.9%) suffered hospital complications (63.6% of them suffered infections, 27.3% cardiovascular complications and 59.1% others). Health care resource utilization differences between SU and wSU hospitals were found in: length of stay (7.2 ± 1.26 days, SU; 11.6 ± 1.55 days, wSU; p-value = 0.014) and specific therapeutic interventions (41.7%, SU; 8.0%, wSU; p-value = 0.001). The overall 4-month cost per patient was 13,647€ (49.2%, hospital stay; 24.8%, rehabilitation at discharge). **CONCLUSIONS:** Cardioembolic stroke imposes significant economic burden for the Public Health System in the Region of Madrid. Key cost drivers were hospital stay and patients' rehabilitation at discharge. Patient management in SU hospitals was associated with more specific therapeutic interventions and shorter hospital stay than hospitals wSU.

#### PCV30

##### ASSESSMENT OF THE HOSPITAL COSTS OF MITRAL REGURGITATION (MR) PATIENTS, A FRENCH NATIONAL HOSPITAL DATABASE ANALYSIS

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**OBJECTIVES:** To evaluate the annual acute and long-term hospitalizations cost of MR from a French National Payer perspective. **METHODS:** A 12 months retrospective population-based study was conducted using the 2009–2010 French Medical Information System (PMSI). This exhaustive database covers all public and private hospitals in France and it is based on standardized hospital discharge reports. Each patient is identified using a unique anonymous identification number allowing a longitudinal follow-up. Extracted variables included patients' demographics, outcomes, acute hospital and post-discharge resource utilizations. **RESULTS:** 19,868 MR patients were identified and analyzed in two sub-groups depending on their therapeutic management. In the surgical group (n=4,099), the index hospitalization length of stay was 17 days, 77% of patients were discharged to a rehabilitation facility and the average re-hospitalization rate was of 33% over a 6 month period. The average total cost per patient was €22,152. In the non-surgical group (n=15,769), patients were hospitalized on average 3.1 times over 12 months with an average length of stay of 7.7 days. Among those patients, 24% were admitted to a rehabilitation facility (on average 1.5 times) with an average length of stay of 27.9 days. The average total cost per patient was €12,177, varying between €9,957 to €13,538, without and with heart failure respectively. Detailed analysis showed 2 to 3 times higher costs in the 9th and 10th percentiles. By sub-group, the average cost of the 10th percentile was €50,268 for the surgical group and €36,503 for the non-surgical group. **CONCLUSIONS:** The total observed cost in this population was €283 million over 12 months. Significant differences were observed in cost and resource used between the surgical and non-surgical groups and depending on type of surgery or presence of heart failure within each subgroup. This is the first study reporting hospital costs associated to MR in France.

#### PCV31

##### COST OF CARDIOVASCULAR DISEASES IN SERBIA

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**OBJECTIVES:** Cardiovascular diseases (CVDs) imposes a burden to society in terms of mortality, morbidity and economic losses. The aim of this study was to estimate the cost of CVDs in Serbia in 2009 from the perspective of the society. **METHODS:** For the purpose of the study CVD was defined by the International Classification of Disease 10 revision, as the following diagnosis: hypertension, coronary heart disease, cardiomyopathy, heart failure and cerebrovascular disease. The prevalence, top-down method was used to quantify the annual cardiovascular costs. Productivity losses were estimated using the human capital approach and the friction cost method. Data were collected from Serbian Health Insurance Fund and National Public Health Institute "Batut". A discount rate of 5% was used to convert all future lifetime earnings into the present value. **RESULTS:** The total direct costs of CVD in 2009 were € 400 million. The majority of total costs (€ 514.3 million) were for: medication (29.94%), hospital days (28.97%) and hospital inpatient care – surgical and diagnostic interventions (17.84%). Indirect costs (mortality and morbidity) accounted for 22.15% of total costs. The results showed that more than half a million working days were lost due to incapacity resulting from CVDs. The results were robust to a change in ±20% of volume or the unit price of all direct and indirect cost and to discount rate 2% and 10%. **CONCLUSIONS:** The total CVD in 2009 represented approximately 1.8% of the Serbian gross domestic product. The results of study would be valuable to health policy makers to bridge the gap between invested resources and needs, in order to improve cardiovascular disease outcomes.

#### PCV32

##### THE COST OF DIABETES COMPLICATIONS IN BELGIUM

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**OBJECTIVES:** The risk of cardiovascular risk is higher in patients with diabetes but what with the cost of this complication? The aim of this study was to compare the cost of cardiovascular events in patients with and without diabetes in Belgium. **METHODS:** Cost of cardiovascular events among hospitalized patients were estimated using the longitudinal IMS Hospital Disease Database (2008), including data on 34.3% of Belgian hospital beds, combined with Belgian population data. Stays were identified based on ICD-9 or DRG coding. Cardiac disease included myocardial infarction (MI; ICD-9:410), angina (ICD-9: 413) and heart failure (ICD-9: 428). Cerebrovascular disease (CVD) was defined as stroke (APR-DRG:045;046) and Transient Ischemic Attack (TIA; DRG:047). Diabetes was defined with the ICD-9 codes 249 and 250. Cost comparisons were made using a Wilcoxon non-parametrical test.